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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Karsten Haug

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KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

BAKER, DAVID S

ART UNIT

PAPER NUMBER

2884

MAIL DATE

DELIVERY MODE

10/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,201	Applicant(s) HAUG, KARSTEN	
	Examiner DAVID S. BAKER	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2008 and 13 May 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/13/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 05 May 2008 has been accepted and entered.

Information Disclosure Statement

2. The Information Disclosure Statement filed on 13 May 2008 has been accepted and entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-20 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weidel (DE 4107850 A1) in view of Griesinger (US 6,049,387 A).

Regarding claim 15, Weidel discloses driver assistance night-vision system for a motor vehicle, comprising: a camera having an image sensor and a filter element (C:3 L:55-66), wherein the image sensor is configured for recording electromagnetic radiation from the visible range and the infrared range of the spectrum (C:3 L:55-66), and wherein the filter element is positioned in an optical path of the night-vision system in such a way that the filter element causes an attenuation of recorded electromagnetic radiation from predefined partial areas of an image scene (C:3 L:55-66), and wherein the predefined partial areas of the image scene are imaged onto corresponding predefined partial areas of the image sensor (C:3 L:55-66). Weidel does not disclose that the filter element has an

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inverse wavelength characteristic as a wavelength characteristic of a headlight of the motor vehicle. Griesinger discloses a road condition detector that accounts for the use of the vehicle headlights by suitable compensating an overall detected intensity (C:9 L:4-24) and utilizes the characteristics of filter components for the wavelength ranges detected via Fourier transform (C:15 L:20-33). Griesinger does not disclose expressly that the characteristic of the filter is an inverse wavelength one with respect to the headlights. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the filter and normalization means of Griesinger in the system of Weidel. The motivation for doing so would have been to improve the road condition determination accuracy. Additionally, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the filter to have an inverse wavelength characteristic in order to further account for the headlight radiation in the detected light. The motivation for doing so would have been to improve the integrity of the collected data by eliminating direct backscatter light that is not indicative of the road conditions.

Regarding claim 16, Weidel discloses that the camera is sensitive in a wavelength range of 400 to 1100 nm (C:2 L:8-11).

Regarding claim 17, Weidel discloses that the attenuation of the recorded electromagnetic radiation includes attenuation of electromagnetic radiation corresponding to a portion of the image scene in a close range from the driver's perspective (C:3 L:55-66).

Regarding claim 18, Weidel discloses that the filter element has a wavelength-dependent filter characteristic, and wherein a transmittance function of the wavelength-dependent filter characteristic is adapted based on selected application criteria for the night-vision system (C:3 L:48-55).

Regarding claim 19, Weidel discloses that the filter element has a locus-dependent filter characteristic, and wherein a transmittance function of the wavelength-dependent filter characteristic is adapted based on selected application criteria for the night-vision system (C:3 L:55-66).

Regarding claim 20, Weidel discloses a locus-dependent filter characteristic is set in accordance with an inverse, locus-dependent sensitivity of an overall optical system of the night-vision system, so as to compensate for lack of homogeneity of radiation intensity from a far range (C:3 L:5-8).

Regarding claim 25, Weidel discloses a control unit operatively coupled to the camera and a high-beam headlight and a low-beam headlight of the motor vehicle, wherein the high-beam headlight projects a light having a spectral range that substantially does not overlap with a spectral range of a light projected by the low-beam headlight (C:2 L:40 thru C:3 L:25).

Regarding claim 26, Weidel discloses a camera for a night-vision system for a motor vehicle, comprising: a radiation-sensitive image-sensor surface configured for recording electromagnetic radiation in the infrared range (C:3 L:55-66); a filter element positioned in an optical path of the night-vision system so as cause an attenuation of electromagnetic radiation recorded at predefined partial regions of the image-sensor

surface (C:3 L:55-66). Weidel does not disclose that the filter element has an inverse wavelength characteristic as a wavelength characteristic of a headlight of the motor vehicle. Griesinger discloses a road condition detector that accounts for the use of the vehicle headlights by suitable compensating an overall detected intensity (C:9 L:4-24) and utilizes the characteristics of filter components for the wavelength ranges detected via Fourier transform (C:15 L:20-33). Griesinger does not disclose expressly that the characteristic of the filter is an inverse wavelength one with respect to the headlights. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the filter and normalization means of Griesinger in the system of Weidel. The motivation for doing so would have been to improve the road condition determination accuracy. Additionally, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the filter to have an inverse wavelength characteristic in order to further account for the headlight radiation in the detected light. The motivation for doing so would have been to improve the integrity of the collected data by eliminating direct backscatter light that is not indicative of the road conditions.

Regarding claim 27, Weidel discloses a filter element for a night-vision system for motor vehicles, the night-vision system including a camera having a radiation-sensitive image-sensor surface configured for recording electromagnetic radiation in the infrared range, the filter element comprising: a filter configured to be positioned in an optical path of the night-vision system so as to cause an attenuation of electromagnetic radiation recorded at predefined partial regions of the image-sensor surface (C:3 L:55-

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66). Weidel does not disclose that the filter element has an inverse wavelength characteristic as a wavelength characteristic of a headlight of the motor vehicle. Griesinger discloses a road condition detector that accounts for the use of the vehicle headlights by suitable compensating an overall detected intensity (C:9 L:4-24) and utilizes the characteristics of filter components for the wavelength ranges detected via Fourier transform (C:15 L:20-33). Griesinger does not disclose expressly that the characteristic of the filter is an inverse wavelength one with respect to the headlights. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the filter and normalization means of Griesinger in the system of Weidel. The motivation for doing so would have been to improve the road condition determination accuracy. Additionally, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the filter to have an inverse wavelength characteristic in order to further account for the headlight radiation in the detected light. The motivation for doing so would have been to improve the integrity of the collected data by eliminating direct backscatter light that is not indicative of the road conditions.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weidel (DE 4107850 A1) in view of Weidel (DE 4137551 A1) and Griesinger (US 6,049,387 A).

Regarding claim 21, Weidel (DE 4107850 A1) and Griesinger disclose the claimed invention but do not disclose expressly that the filter element is affixed in an exchangeable manner. Weidel (DE 4137551 A1) discloses an image improving method including affixing a filter in an exchangeable manner (C:2 L:58-68). At the time the

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invention was made, it would have been obvious to a person of ordinary skill in the art to provide a filter in an exchangeable manner for the apparatus of Weidel (DE 4107850 A1). The motivation for doing so would have been to decrease the difficulty in replacing the filter if corrosion occurs.

6. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weidel (DE 4107850 A1) in view of Albou (FR 2732849 A1) and Griesinger (US 6,049,387 A).

Regarding claim 22, Weidel and Griesinger disclose the claimed invention but do not disclose expressly that the filter element is positioned directly in front of the image sensor. Albou discloses an automobile vision assistance system wherein a filter is mounted directly in front of the image sensor (P:4 L:32-34). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to place the filter directly in front of the image sensor. The motivation for doing so would have been to reduce the complexity of the optical path thereby reducing the cost of the optical system.

Regarding claim 24, Weidel and Griesinger disclose the claimed invention but do not disclose expressly that the filter element is configured as an integrated part of a protective glass for the image sensor. Albou discloses an automobile vision assistance system wherein a filter element is configured as an integrated part of a protective glass for the image sensor (P:4 L:32-34). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to integrate the filter as part of a protective glass for the image sensor. The motivation for doing so would have been to

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decrease the number of stand alone components of the optical system thereby reducing the cost of the optical system.

7. Claims 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weidel (DE 4107850 A1) in view of Slawek (US 3,704,375 A) and Griesinger (US 6,049,387 A).

Regarding claim 23, Weidel and Griesinger disclose the claimed invention but do not disclose expressly that the filter element is a coating on the image sensor. Slawek discloses a filter coating on an image sensor (C:4 L:51-64). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a filter coating as taught by Slawek as the filter of Weidel and Griesinger. The motivation for doing so would have been to decrease the complexity of the device by eliminating a stand alone filter thereby reducing replacement and repair costs.

Regarding claim 28, Weidel discloses an image-sensor for a camera in a night-vision system for a motor vehicle, comprising: an image-sensor surface configured to record electromagnetic radiation from the infrared range (C:3 L:55-66), wherein the image-sensor includes a filter that causes an attenuation of electromagnetic radiation recorded on predefined partial areas of the image-sensor surface (C:3 L:55-66). Weidel does not disclose expressly that the filter is coated onto the surface of the image sensor. Slawek discloses a filter coating on an image sensor (C:4 L:51-64). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a filter coating as taught by Slawek as the filter of Weidel and Griesinger. The motivation for doing so would have been to decrease the complexity of the device by eliminating a stand alone filter thereby reducing replacement and repair costs. Weidel

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does not disclose that the filter element has an inverse wavelength characteristic as a wavelength characteristic of a headlight of the motor vehicle. Griesinger discloses a road condition detector that accounts for the use of the vehicle headlights by suitable compensating an overall detected intensity (C:9 L:4-24) and utilizes the characteristics of filter components for the wavelength ranges detected via Fourier transform (C:15 L:20-33). Griesinger does not disclose expressly that the characteristic of the filter is an inverse wavelength one with respect to the headlights. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the filter and normalization means of Griesinger in the system of Weidel. The motivation for doing so would have been to improve the road condition determination accuracy. Additionally, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the filter to have an inverse wavelength characteristic in order to further account for the headlight radiation in the detected light. The motivation for doing so would have been to improve the integrity of the collected data by eliminating direct backscatter light that is not indicative of the road conditions.

Response to Arguments

8. Applicant's arguments with respect to claims 15-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID S. BAKER whose telephone number is (571)272-6003. The examiner can normally be reached on MTWRF 10:30am-7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/David S Baker/

Examiner, Art Unit 2884

/David P. Porta/

Supervisory Patent Examiner, Art Unit 2884